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NEW JERSEY DEPARTMENT OF TRANSPORTATION
Highlights of the 1968 Fiscal Year



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DAVID J. GOLDBERG
Commissioner

STATE OF NEW JERSEY

DEPARTMENT OF TRANSPORTATION

1035 PARKWAY AVENUE
TRENTON, N. J. 08625

Governor Richard J. Hughes
Members of the State Legislature
The People of New Jersey

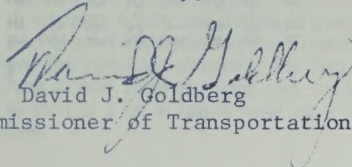
The following pages comprise an objective review of this Department's principal activities and accomplishments that occurred during the past fiscal year.

Severe fiscal restraints in 1967-68 provided for the Department of Transportation a crucial test of how far it could continue to move its programs forward. The degree to which it succeeded is shown in this report on the highlights of activities during the year ending June 30.

As the year drew to a close, the problem of fully utilizing the Department's growing capabilities in planning, building and operating transportation facilities was still one of finance.

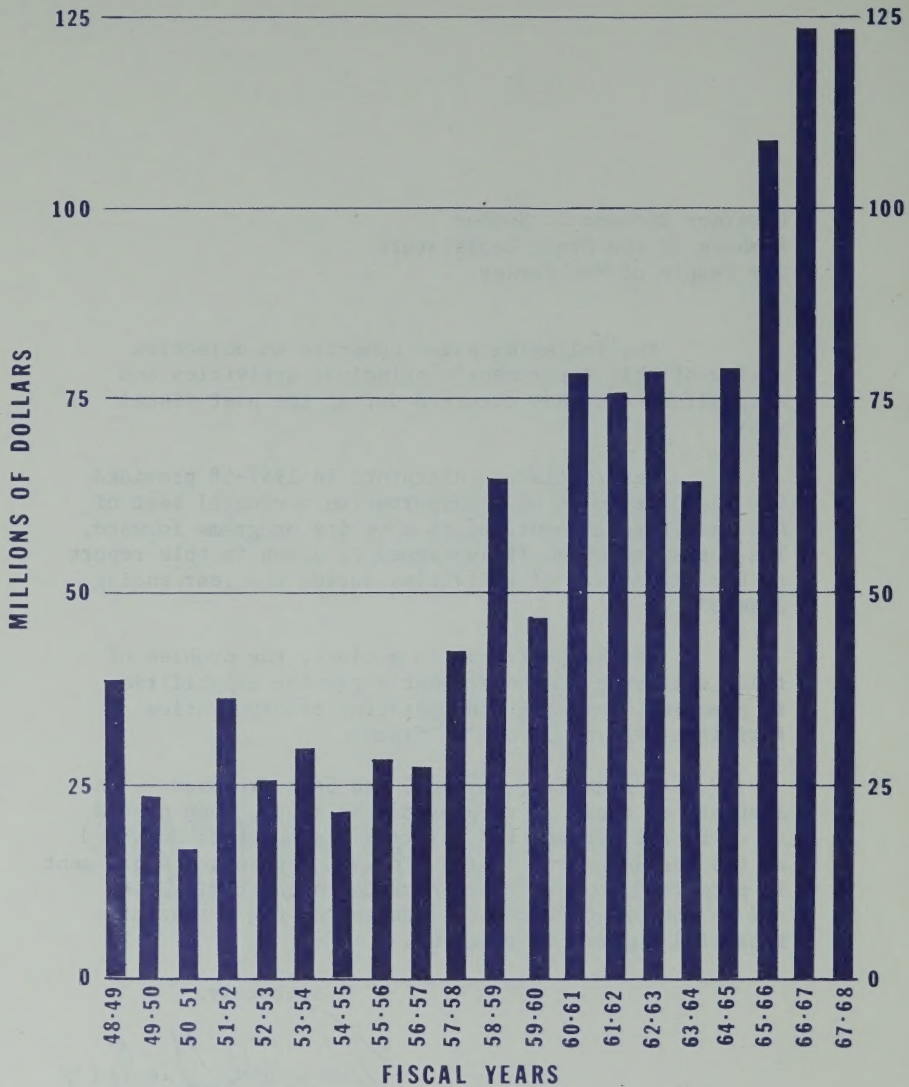
A solution, however, had been proposed -- the issuance of bonds -- to provide the money, when needed, to carry out highway and railroad improvements demanded by the people of the State. To what degree the Department is permitted to meet those demands in the coming year and in the years beyond will depend on the extent of financial support it receives.

Sincerely,


David J. Goldberg
Commissioner of Transportation

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DOLLAR VALUE OF CONTRACTS AWARDED



STATUS OF

THE NEW JERSEY DEPARTMENT OF TRANSPORTATION is at least 400 years old. It was born in 1674 when the first highway was built in the State. It was then a simple dirt road, but it was the beginning of a long and glorious history.

Since 1674, the Department has grown and changed. It has become a more complex organization, but its mission remains the same: to provide safe and efficient transportation for the people of New Jersey.

Department's Objectives

The Department's primary objective is to provide safe and efficient transportation for the people of New Jersey. This objective is achieved through a variety of programs and services.

One of the Department's most important programs is its highway construction program. This program is responsible for the construction and maintenance of the State's highway system.

Another important program is the Department's public transportation program. This program is responsible for the operation of the State's public transportation system, including buses, trains, and ferries.

The Department also has a variety of other programs and services, including its traffic engineering program, its safety program, and its research and development program.

The Department's success is measured by the safety and efficiency of its transportation system. The Department is committed to providing the highest quality of service to the people of New Jersey.

Highlights

The year ending June 30, 1968, was the first full year of operation for the New Jersey Department of Transportation, a year in which long-standing roadblocks to highway construction were eliminated and the Department geared up for greater work capacity. It was a year in which preparations were made to give public transportation an expanding role in meeting the State's overall transportation needs and ways were found to help keep existing transit problems in check until that greater role can be assumed.

Even more, it was a landmark year of planning in which the Department set forth for the people of New Jersey in clear, comprehensive and precise terms the transportation problems confronting the State and what must be done to meet them.

But there also appeared those same deterrents to progress, those same frustrations of previous years. There was the lengthy waiting for Federal approval of highway alignments. There were the inevitable delays resulting from the requirement that highway plans be submitted for review by an increasing number and diversity of government agencies, some of which might have had only a remote concern. There were the frustrations of finance. The Department, able and ready to move ahead at a faster pace, was suddenly brought up short by a cut in Federal funds and a shortage of State funds.

Blueprint for the Future

In a report of the year's activities, development of the Department's first Master Plan stands out as a most significant accomplishment. This detailed document, the blueprint for a ten-year program for meeting the first priority capital needs for highways and public transportation, evoked high praise and almost unanimous endorsement throughout the State shortly after its release in March. It was warmly greeted by business and industrial leaders, members of both political parties, the press, citizen groups and individual New Jerseyans throughout the State.

Preparation of the 1968 Master Plan was undertaken as a requirement of the 1966 Act which created the Transportation Department and called upon the Commissioner of Transportation to "develop, from time to time revise and maintain a comprehensive master plan for transportation development."

The plan proposed a \$1.2 billion bond issue, supplemented by regular State and Federal funds, to provide a \$2 billion spending program. Of this amount, \$1.4 billion were to be earmarked for non-Interstate highway construction, \$375 million for public transportation and \$300 million for state aid for local roads. It was recommended that the bonds be issued in three stages over the ten years and that they be completely amortized by a one-cent increase in the State gasoline tax in 1969 and another one-cent hike in 1974.

The plan's urgent appeal for action was re-stated by a fourteen-member panel of distinguished citizens, the "Governor's Commission to Evaluate the Capital Needs of New Jersey." The Commission approved the total ten-year first priority program in principle and urged that its recommendations for the first five years be implemented as the minimum requirements at the outset.

"In no small measure," the Commission declared, "the capital needs for transportation are related to a catching-up process, merely doing things which should have been done over the last ten years or longer."

The Commission recommended three bond issues totaling \$1.9 billion to meet transportation and other State capital needs for education, institutions, water pollution control and conservation in the next decade. These recommendations were placed before the Legislature, which trimmed and revised them to a \$990 million package of three referendums in the belief the lower amount would be acceptable to the voters in November, 1968. The transportation proposal was reduced to \$640 million, with \$440 million slated for highways and \$200 million for public transportation. Other referendums covered education and institutions and housing subsidies.

Thus, New Jersey's pay-as-you-go method of financing highways, which inhibits long-range planning and defeats attempts to schedule construction sensibly, would be virtually replaced by an assured source of substantial funds—the \$640 million transportation bond issue.

The need for a dependable method of financing was further underscored by an order from the Federal government cutting back the amount of its highway funds that could be used and a substantial reduction in State appropriations.

At the same time, highway deaths and injuries continued to rise; construction costs increased and the economic and social losses stemming from longer travel times and accidents continued to mount. "The longer we wait," noted the Master Plan in referring to the cost of highway and railroad improvements, "the more we have to pay."

Studies Completed

While the Master Plan provided the basis upon which the Department will build its program for the future, two other Departmental reports completed during the year offered support for the plan and additional insight into the economic role of highways in New Jersey.

The first was a comprehensive study conducted for the Department by Wilbur Smith and Associates, engineering consultants, which surveyed present highway conditions and future needs for State, county and local roads. A twenty-year program to develop the entire road system was recommended at a total cost of more than \$11.7 billion.

The second study, by the same consultant, weighed the social and economic results attributed to the construction of two Interstate highways, Routes 287 and 95 in Middlesex and Somerset Counties. It found again that freeways are a catalyst for economic and social development in the areas they serve, that they attract industry, business and population, and that land use and land values near the highways increase substantially with resulting increases in tax revenues and tax rates.

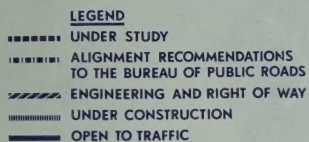
As another phase of its planning program, the Department ordered a one-year study of the use of air space over and under present and future State highways in urban areas. The research by Tippetts-Abbett-McCarthy-Stratton, a consulting engineering and architectural firm, will be aimed particularly at how air rights can be used in programs to revitalize cities. The possibility of a joint development project will be explored in the hope that the use of air rights can contribute to the social, economic and aesthetic improvement of the communities.

Legislative Actions

In addition to the Transportation Bond Issue referendum (Senate Bill 842), the Department received legislative support in several other instances. Legislation to permit the construction of bridges across the Delaware River as part of the Interstate Highway System (Senate Bill 696) is discussed later in this report. A 20-year impasse over the Princeton Bypass (Route 92 Freeway) was generally resolved and the highway was given legislative approval in Assembly Bill 312.

Senate Bill 250 would have raised the State's share of road aid to counties and municipalities from 50 to 90 per cent. Governor Hughes vetoed the bill conditionally, noting

STATUS OF INTERSTATE SYSTEM



ROUTE	00	10	20	30	40	50	60	70	80	90	TOTAL
76	00	00	00	19	07	37					63
78	24	00	00	101	200	337					662
80	00	00	00	23.5	189	257					481
95	00	00	124	181	19	40.8					344
195	135	00	00	209	00	00					74.2
278	00	00	00	00	11	09					20
280	00	00	00	7.8	92	11					181
287	00	189	00	00	138	30.2					629
295	00	00	31.3	116	290	719					719
495	00	00	00	00	00	3.6					3.6
676	00	00	00	00	00	11					11
TOTAL	15.9	31.3	114.6	77.2	1698	4068					



GOVERNOR RICHARD J. HUGHES OPENS FABYAN SWIM CLUB TO YOUTHS IN ESSEX COUNTY.

that the revised formula would result in less matching money being made available for highway improvements. He recommended that the sharing of costs remain at 50-50 for counties, that it be changed to 75-25 for municipalities and that funds be provided for improving county and local bridges in the same manner. Up to 10 per cent of the total State funds also would be available to help pay the costs of a comprehensive bridge inspection program. The Legislature amended the bill to conform to these recommendations.

Of the two pieces of Departmental legislation which failed to pass, one would have permitted the Commissioner to control outdoor advertising and junk yards adjacent to Interstate and Federal Aid Primary highways. The other was aimed at holding down the cost of future right-of-way acquisition by requiring approval by the Commissioner for building permits or subdivisions along proposed alignments.

A new and meaningful step was taken with the passage of Senate Bill 474, authorizing the Commissioner to lease land under state highway bridges or viaducts to local governments for public use. The first lease, to the City of Paterson, made property available under the Route 80 viaduct for use as a playground.

Helping Communities

At the same time, the Department was finding other ways to help improve the life of young people in the cities by combining highway construction with community cooperation.

Municipalities had been permitted at various times to use property acquired and cleared by the Department as temporary public parking areas. This concept of making highway rights of way available for other public purposes until it is needed for construction was broadened.

In Newark, sites on Route 21 (McCarter Highway) and along the right of way for Interstate Route 78 were cleared and graded for two city playgrounds.

In Passaic, at the request of city officials, the Passaic Armory, acquired by the Department in connection with the proposed Route 21 Freeway, was made available for use in a temporary summer camp program for underprivileged children.

And on the Newark-Irvington-Hillside border, one of the largest and best-equipped swim clubs in the area was turned over by the Department to Essex County for use by underprivileged children this summer and next summer. The former Fabyan Swim Club was acquired as part of the Interstate Route 78 project, with 90 per cent Federal funds, and the U.S. Bureau of Public Roads approved community use of the facility.

'Freeze' Hits Construction

The Department last year stepped up its tempo of activities and appeared headed for a record year of highway work. It had demonstrated the capability to commit yearly

\$200 million in Federal funds to highway design, right-of-way and construction and anticipated that by 1970 this capacity would be increased to \$250 million a year.

Then, in January, the Department was notified by the Bureau of Public Roads of the Federal Highway Administration that each state must limit its Federal-aid highway obligations during calendar 1968 to about 95 per cent of the amount obligated during the previous calendar year.

For most states, this nationwide effort to stem inflation meant a comparatively moderate cutback of five per cent. But the impact was unusually sharp in New Jersey. The decree limited New Jersey's obligations of Federal-aid highway funds to \$107.6 million, 95 per cent of the \$114 million that State had obligated in 1967. This slashed nearly in half the amount of Federal funds the Department had hoped to put to work. In addition, the Bureau required that in the first six months of the year only 45 per cent of this money could be obligated.

Since the Department had already obligated more than \$17 million in Federal funds before the effect of the cutback was made known, it had no alternative but to curtail its construction program drastically.

Department officials asked to no avail that the restrictions be eased, pointing out that because the freeze order was based on a level of previous accomplishment rather than a level of present capacity, it disrupted orderly planning and unfairly penalized states like New Jersey which were making serious attempts to bring their Interstate construction program up to a current status.

Right-of-Way Affected

The effect of the freeze order was felt nowhere more strongly than in the Division of Right of Way. The acquisition of property for highways long had been a major bottleneck in construction scheduling. But since 1963, by adopting new management concepts and with some additional staff and unique in-service training programs, the Division had been able to keep up with and even exceed the pace of the design engineers.

The Federal cutback meant many projects had to be put on the shelf until the funds become available again. This, in turn, is resulting not only in the loss of valuable lead time over construction work but also higher right-of-way costs because of the delay.

A high dollar volume of activity in the first half of the year enabled the Division to set a record for the value of property acquisitions, amounting to \$60,084,844 and placed New Jersey among the states leading in right of way activities. A near-record number of parcels acquired also was evidence that the Division was able to maintain a high level of production. Although the right of way needed for 81 highway projects was made available during the year, 59 of these projects with a total estimated construction cost of \$210 million could not be advertised for bids, partly because of the freeze order.

Work Level Stays High

Nearly \$116 million worth of highway construction projects, however, were placed under contract during the past year. Despite the freeze, this amounted to only \$1 million below the total for similar awards in 1966-67. In addition, more than \$7 million in work was awarded for various maintenance projects and electrical contracts, bringing overall contract awards to more than \$123 million. Thus, the Department's construction level was only about \$150,000 less than the total contract dollar volume in the record 1966-67 year even though all available funds were exhausted and contracts delayed.

Of the 46 highway construction contracts awarded during the year, 12 amounting to more than \$49 million were on the Interstate System and 34 were on other highways at a cost of nearly \$67 million, a record level of non-Interstate work. At the outset of the year, 73 construction contracts amounting to \$188.7 million were under way. At the close of the year there were 66 construction contracts in effect with a total value of \$267.3 million—a record high.

The two largest road construction contracts in State history were awarded during the year. One amounted to \$13,222,819 for construction of a 1.6-mile section of the Route 440 Freeway in Edison and Woodbridge Townships in Middlesex County. The other was an \$11,887,906 contract for extensive excavation and construction of bridges and culverts in the Newark Airport area, where work on a massive interchange complex includes relocation of U.S. Route 1&9 and construction of Interstate Route 78.

By year's end, ninety per cent of the basic job involved in putting together New Jersey's 408.9-mile network of interstate highways—design work and right of way acquisition—had been accomplished. The remaining follow-up task was to award contracts for construction. The situation had changed drastically from previous years. No longer was the program beset by the problem of management. Except in those cases where alignment or the relocation of people posed particular problems, the Department could have moved in a fast and orderly fashion to complete the system—had it been given the funds to do it.

Highway Paths Set

The Department placed a high priority in the past year on resolving highway alignments as quickly as possible. This emphasis is understandable for, until the corridor for a new road is agreed upon and approved, the necessary design, engineering work and right-of-way acquisition that precedes construction cannot move ahead. Delay in deciding location means the benefits of a new artery to motorists and to the economy will be put off and construction costs will rise.

A number of major alignment problems on key sections of the Interstate System were resolved during the year. These included the 21.5-mile westerly portion of Route 195, the Trenton-to-Shore Freeway; an 18.8-mile stretch of Route

95 in Mercer and Somerset Counties; a 10.5-mile segment of Route 295 in Mercer County, and the 2.3-mile easterly end of Route 280 in Hudson County. The Bureau of Public Roads also approved two important alignments in the State system: The 6.3-mile Route 90 Freeway in Camden and Burlington Counties, and the 7-mile Route 33 Freeway in Monmouth County.

Each of these alignment decisions cleared away barriers to construction and further highway planning.

Interstate 195—Action on this route will make the start of construction possible this fall on a long-sought freeway link between the State Capital and Shore resorts. A lengthy and involved series of circumstances preceded Federal approval of this Interstate route. Principal factors in the final action were strenuous objections of Union County residents to construction of a different Interstate highway in their county and Congressional action permitting reassignment of funds from that highway to Route 195. Its alignment for about 1.5 miles of the western end in Mercer County is the same as had been previously presented for the Route 29 Freeway. The rest of Interstate 195 follows the alignment that had been approved for the Route 37 Freeway. The easterly section of about 13.5 miles is to run into Route 38 at Route 34, west of the Garden State Parkway in Wall Township. A route location study will pave the way for a public hearing on this portion of the Freeway.

Interstate 295—The BPR approved the Department's recommended path from Route 206 (South Broad Street) in Hamilton Township to its northerly junction with Interstate 95 in Hopewell Township, Mercer County, an alignment presented at a hearing in 1965.

Interstate 95—BPR approval extended from Scotch Road, Ewing Township, to County Route 514 in Hillsborough Township, Somerset County. The Department had sought approval of the alignment for about 12 miles beyond Route 514 to Interstate 287 in South Plainfield, Middlesex County, but Federal officials withheld decision on this segment to review objections raised by local officials.

Interstate 280—The Bureau also approved the eastern portion of this vital artery which will carry traffic through the congested Newark metropolitan area. From the Stickel Bridge in Newark it will run into East Newark, through Harrison and Kearny to Interstate 95, which coincides with the New Jersey Turnpike at that point.

Route 90—This Freeway is designed to serve through traffic north and east of the densely populated Camden-Philadelphia area. The approved route extends from U.S. Route 130 in Pennsauken Township through Cinnaminson, Maple Shade and Moorestown Townships to Route 73 in Mount Laurel Township. The Freeway is to connect with the proposed new Delaware River bridge from the Delair section of Pennsauken Township to the Bridesburg section of north-east Philadelphia.

Route 33—The Freehold bypass phase of the general



HIGHWAY CONSTRUCTION MOVES AHEAD





NEW RAIL COMMUTER CARS



Route 33 modernization program was the subject of a public hearing in February, 1965. The alignment approved extends from the completely dualized section of Route 33 in Manalapan Township eastward through Freehold Township south of Freehold Borough and rejoins Route 33 in Howell Township. The central section of this line is almost identical with the one that was initially proposed.

In addition to the unapproved section of Interstate Route 95 already mentioned, two other major highway alignments are still to be resolved. One is the 19.6-mile northern end of Interstate 287, extending from Montville Township, Morris County, through Passaic County to the New York State line in Mahwah Township, Bergen County. While most affected communities support the Department's alignment, some objections have been raised by local officials. In addition, some communities to the west of the present alignment are seeking to have the road relocated in their area in the hopes of spurring industrial development.

The other is the Princeton Bypass, a four-mile segment of the Route 92 Freeway, running westerly from Route 1 in South Brunswick Township, Middlesex County, to Route 206 in Montgomery Township, Somerset County. This key section of the freeway was the subject of intensive study and conferences between officials of the Department and the affected municipalities and counties before the Legislature gave its authorization and the proposed alignment was scheduled for public hearing.

Bridge Impasse Broken

While not in the nature of an alignment settlement, a significant achievement by the Department during the year was the breaking of a five-year stalemate that had held up construction of a number of bridges across the Delaware River.

As a result of agreements negotiated by Commissioner Goldberg on behalf of the Department and the Delaware River Joint Toll Bridge Commission, a bill was prepared by the Department and approved by the Legislature clearing the way for construction of toll-free bridges as part of the Interstate Highway System. It authorized the Department to enter into agreements with Pennsylvania, the Commission and the Federal government for construction of the bridges between Bristol, Pennsylvania, and Burlington and between Easton, Pennsylvania, and Phillipsburg.

The measure gave assent to a Commission plan under which that agency approved a toll-free Interstate Route 78 bridge three miles south of Phillipsburg in return for the Federal government's agreement to include the Burlington-Bristol span in the Interstate System. The latter bridge would link Interstate Route 295 in Burlington County with Interstate Route 95 in Pennsylvania's Bucks County. As a result, these bridges and their approach roads, as part of the Interstate System, would be built with 90 per cent Federal funds.

The accord broke a long impasse in which the BPR

refused to build a toll bridge on Interstate 78. The Commission opposed a free span at Phillipsburg-Easton because its interstate compact and its contract with bondholders barred construction of a free bridge within ten miles of the Easton-Phillipsburg toll bridge.

Public Transportation

The youngest activity in the Department and the one which has been receiving an increasing amount of public attention is concerned with the improvement of public transportation services—railroads, buses and aircraft.

The Division of Public Transportation together with the Department's Commuter Operating Agency (COA) was principally concerned with keeping the commuter railroads in operation and providing the best service possible with worn-out equipment. At the same time they launched an interim program to obtain better equipment and make improvements in service within strict financial limitations.

Largely it was a continuation of the previous holding action. But by year's end there were significant achievements. There was also strong indication that the public recognized not only the urgent need for additional financial support but also that the Department could use this aid in a well-conceived improvement program.

The Division of Public Transportation was reorganized and expanded during the year to plan and administer the capital improvement program recommended by the Governor in the Transportation Message of 1966. Its principal accomplishment was development of the Public Transportation section of the Department's Master Plan—a proposed \$325 million capital improvement program to be accomplished by 1973. This plan was endorsed virtually intact first by the Governor's Commission on Capital Needs and then by the Legislature.

The program, to be financed with \$200 million from a bond issue and the rest with capital grants from the Federal government, includes complete modernization and re-equipment of commuter railroad facilities in the most populous sections of the State.

Rail lines would be electrified where needed and new high-speed air-conditioned cars as well as improved commuter parking and station facilities would be provided. About \$92 million would be available to eliminate hazardous grade crossings.

As part of its primary assignment of keeping commuter lines in operation, the Division negotiated contracts for service between the State and four railroads. Together with the continuing contract with the Penn-Central and a five-year agreement with the Erie-Lackawanna providing for a program of capital improvements, this meant that all rail commuter services were preserved during the year.

The precarious financial position of commuter service was underscored when the Commuter Operating Agency had to make \$2 million available to the bankrupt Central Railroad of New Jersey to guarantee continued operation of its

passenger trains. The money was loaned to the railroad and in return the State received trustee certificates, constituting a lien against the line's assets.

Meanwhile, the COA was searching for ways to make interim improvements in service until, hopefully, the voters would approve the bond issue in a November referendum. Because of the critical need for improved equipment in CNJ operations, the agency authorized as an emergency measure that six locomotives be leased to the railroad with the Department underwriting the cost.

The COA then embarked on a short-term plan to replace or refurbish CNJ passenger equipment until the line can be electrified and new high-speed cars can be acquired in the next five years as outlined in the Master Plan. Approval was given to acquire 13 new locomotives and up to 50 refurbished coaches under lease arrangements, again with the Department picking up the cost of the leases.

Another significant action was the signing by the agency of an agreement with the Amalgamated Transit Union providing job and wage protection for bus company employees who might be affected by improved railroad commuter service. This agreement, dealing with the effects of the Aldene Plan, laid the basis for similar agreements required before the State can obtain Federal funds for other projects. The initial agreement enables the State to receive a \$3.6 million Federal capital grant for the Aldene Plan.

As for the Aldene Plan, which completed its first full year of operation, the Division of Public Transportation noted that although ridership on the participating commuter lines showed small increases, the operating deficit of the CNJ was reduced by well over \$1 million.

During the year, the Division also:

Contracted for the realignment of tracks at the Trenton Station so that Penn Central's planned Washington-New York high-speed trains will be able to serve the State's capital. Construction was expected to begin in the first half of fiscal 1969 on a new station in Woodbridge Township on the Penn Central main line, also for use by the high-speed service.

Made improvements in Hoboken Terminal in cooperation with the Port Authority Trans-Hudson Corp. to permit faster and more convenient transfer from Erie-Lackawanna trains to the PATH service.

Received a special study on the possible use of the Route 35 Freeway median strip for an extension of the New York & Long Branch Railroad from Red Bank to Wall Township.

At year's end the Division was awaiting delivery, expected in the first half of fiscal 1969, of 35 stainless steel, high-speed electric passenger cars. This equipment, being built under a contract with St. Louis Car Division of General Steel Industries, will be owned by the State and leased to the Penn Central. The State and Federal governments are sharing the \$9.9 million cost of the new cars.

Aviation Growth

The Division of Aeronautics, while working to keep pace with the growing activities of private and commercial aircraft, was instrumental in the success of two efforts expected to result in long-range benefits to the State.

The first was a \$50,000 grant by the U.S. Department of Housing and Urban Development to the Eagleton Institute of Politics at Rutgers University. The funds will be used to evaluate the use of vertical or short take-off or landing (V/STOL) aircraft in the New York metropolitan area.

The study stems from the earlier "Metro Air Support '66" exercise which the Division coordinated. The exercise and evaluation were prompted by the need to develop another system of transportation to alleviate commuter travel problems in the metropolitan area.

The second was the passage by Congress of an aircraft noise abatement bill strongly urged by the Division as necessary to promote public acceptance of the growth of aviation and aviation-related activities at or near major airports. The Division was instrumental in formulating and sponsoring the bill, which provides lower aircraft operating noise levels.

The number of aircraft registered in the State climbed to 2,400 as a result of more stringent enforcement and expanded administration. This compared to 2,210 aircraft the previous year and was more than 30 per cent above the estimated number active before enactment of the Aircraft Registration Act of 1964.

Internal Improvements Noted

In many other ways as well, the Department during the year strengthened its internal operations. One of the most basic changes ever instituted in the traditional structure of organization began to evolve.

Previously, all field activities throughout the State were controlled through the various division headquarters in Trenton. Control is being shifted to regional engineers responsible only to the State Highway Engineer. Two regions in the northern part of the State began functioning during the year. Ultimately, the State will be divided into four regions.

This basic change was recommended by an internationally renowned consulting firm to improve coordination in the field of various departmental functions, such as design and construction. It already has been shown that the change will speed up activity with less paper work and will improve the Department's responsiveness to local requirements.

This was the year the Department's computer section came of age, the year that computers first were used regularly to achieve significant savings in engineering time and costs.

An engineering oriented computer given the necessary information, now automatically produces drawings for design of highways, bridges, and interchanges; plot plans of land tracts needed for right of way and even plots of entire

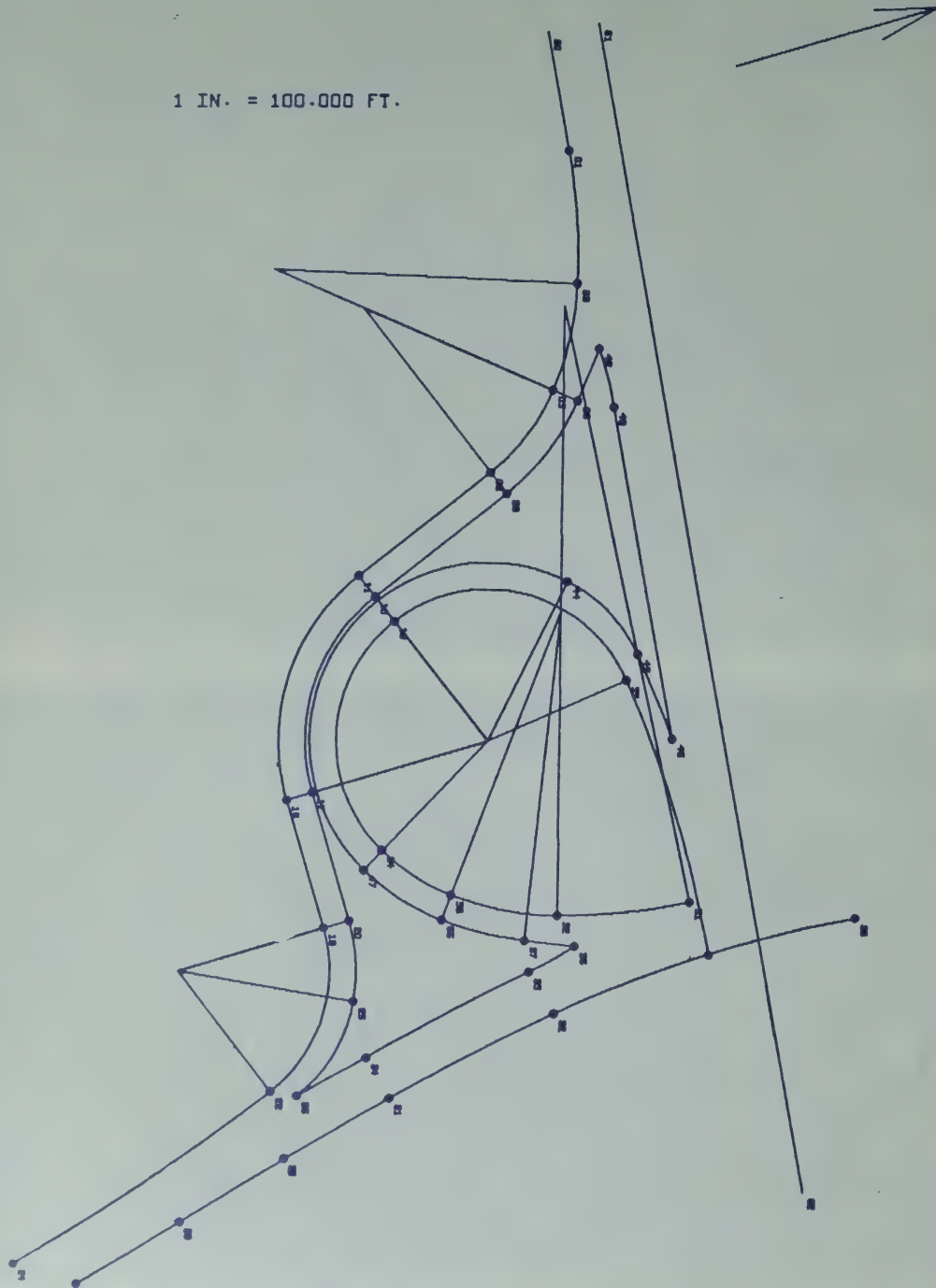


TRAFFIC JAM AT NEWARK AIRPORT



LONG RANGE PLAN, NEWARK AIRPORT

1 IN. = 100,000 FT.



COMPUTER PLOT OF HIGHWAY INTERCHANGE QUADRANT

traffic networks. These provide a visual check on the engineering work.

In the preparation of project specifications alone, the computers can save up to 2/3 of the time previously needed to do the work manually. As an example, an average project which ordinarily would require four persons working from two to three weeks at a cost of \$1,980 can, with a computer, be completed by three persons working from one day to two weeks at a cost of \$1,041. The estimated saving in time: one man for one month. The estimated saving in money: nearly 50 per cent.

As the computers came into wider usage, they helped to produce weekly reports on traffic counts. The reports are used in design work to estimate highway capacity. Black hoses stretched across many highways record on tape the number of cars passing over them. Information from the tape is transferred to punch cards and the punch cards are fed into computers. Previously the information had to be tallied on comptometers.

The Maintenance Division also engaged in new ways to improve its operations. One was the start of a program of "unit purchasing" of equipment—the ordering of such items as trucks fully equipped with salt spreaders, snow plows, and all other components considered essential to the truck. The "unit purchase" concept has saved many man-hours which previously were needed to outfit equipment in department shops.

The division's program of utilizing annual contracts for purchasing materials was virtually completed during the year. Use of the annual contract is a device which increases flexibility in purchasing materials and shortens the time between order requests and delivery of material.

And because the Division's method of reporting winter road conditions throughout the State operated so well, its Emergency Control Room was given the responsibility of direct contact with news media during storms, a function previously carried out by the Bureau of Public Information.

Traffic Load Grows

Indicative of the increasing load being placed on the State's highway network and on the Department is the annual growth in traffic signals. The number of signalized intersections has been rising at the rate of more than 40 a year and at the end of the year totaled 1,359. With 1,850 miles of highway in the State's land service system (exclusive of freeways and Interstate mileage) this approaches a ratio of one signalized intersection per mile and a half of highway.

As an example of this growth and why some sections of state highways have taken on the aspect of local streets, Route 1 between Trenton and the Newark-Elizabeth line has more than 70 signalized intersections, with the greatest number in the Elizabeth-Linden-Rahway area.

Unlike signals on most city streets, however, those on State highways are synchronized so that traffic can move

without interruption except during periods of extremely heavy traffic.

As a result of traffic generated by the opening of Interstate highways, signals have had to be installed at intersections near freeway on- and off-ramps.

Also, an increasing number of housing and industrial developments have created more highway intersections, with the resulting need for more signals.

In those instances where the industry or developer wants a signal for his own benefit and the signal is warranted, the Department will install the signal with the cost of installation and maintenance to be borne by the industry. There are 17 such privately financed installations throughout the State.

Local Governments Aided

After several years of study and preparatory work, the Department undertook a new assignment with the establishment of a program of state aid for county and local roads similar to the national program of Federal aid to the states.

The State Aid Road System program and funding plan developed by the Department's Bureau of State Aid and Division of Local Government Aid was approved by the Legislature. An appropriation of \$15 million was provided for the Commissioner of Transportation to allocate to counties and municipalities for projects in a road system based on the most frequently used roads and their interconnection with roads in other systems, including those of the State and various highway authorities.

The construction, reconstruction or improvement of these municipal and county roads at first was to be paid for on a 50-50 basis by the State and the local jurisdictions. As a result of protests that the municipal obligations was too high and the State should assume more of the cost, the ratio for municipalities was shifted to 75 per cent State and 25 per cent local contributions.

Even before the formula was changed, however, the counties and municipalities had requested \$29.3 million in aid—more than twice the amount of money available for the 1968 calendar year. The program is operated on a calendar year basis to coincide with local programming and by the end of the 1968 fiscal year, requests for aid in 1969 amounted to more than \$30 million.

A Firm Foundation

In these ways and in many others has the Department sought to meet the increasingly complex challenge of improving transportation facilities in the nation's most urbanized state.

The financial setback during the year was a severe one in attempting to fulfill urgent needs, but by seeking new concepts in management, and looking to new avenues of finance, by creative planning and careful spending, the Department sees the year just ended as providing a firm foundation for more productive years ahead.

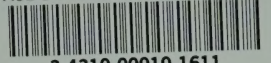


"If there is to be an answer to the growing traffic congestion and the deteriorating service on our railroads, it must therefore come from us. In a very real sense this is entirely proper. If we do not believe strongly enough that these conditions can and should be improved, there is no reason to expect others less directly involved to feel more strongly about the need to act.

"We must now decide whether we want the transportation improvements discussed in this report badly enough to pay for them. The alternative is to do without them. The choice is ours."

*Excerpted from:
"A Master Plan for Transportation"
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